

## ABSTRACT OF DISCLOSURE

A cold cathode discharge device with high efficiency of light emission and long life is prepared by a cold cathode having both high secondary electron emission and anti-spattering property.

Using carbon system cold cathodes constituted of a mixed phase of diamond and graphite, a cold cathode discharge device with high efficiency of light emission and long life is realized. It is desirable that an element having a wavelength of light emission equal to or shorter than 200 nanometers should be mixed in the discharge gas.